

## RECENT RESULTS OF VERTICAL TEST FOR S1-GLOBAL PROJECT AT KEK-STF

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### *Abstract*

A new vertical test (VT) facility was built in KEK-STF (Superconducting rf Test Facility) and in operation since July/2008. Vertical test for S1-Global project is regularly done using MHI#5-#9 cavities, which were newly fabricated in Japan in 2008-2009. In this paper, we report the recent results of vertical test and discuss on cause of field limitation in these tests. For identifying the cause of the field limitation, it is crucial to check the correlation between pass-band mode measurement and T-mapping. In the pass-band mode measurement, the achievable gradient for each cell is obtained by using seven pass-band modes from  $\pi$  to  $3\pi/9$ . MHI#5 cavity achieved 27.1 MV/m at third VT and was limited by the thermal quenching due to defect or contamination. Although MHI#6 cavity had almost same results as MHI#5 in first and second VT, third VT was not completed due to cable breakdown. On May/2009, Electro-Polishing acid was exchanged for new one. After that, many brown stains were observed in the interior surface of MHI#6, #7 and #8 cavities. Such a phenomenon appeared for the first time at STF and the investigation for it is thoroughly being done at present.

**CONTRIBUTION NOT  
RECEIVED**